Vision goals and objectives

Preliminary directions and concepts
White Paper 1 - Vision

An Integrated Transportation System for Our Region that Enhances Prosperity, Sustainability and Quality of Life
White Paper 1 - Goals and Objectives

A high quality of life. – comfort, reliability, choice, attractive, safe.

A thriving, healthy and protected environment. – smaller carbon footprint, ecosystem approach, conserving land

A strong, prosperous and competitive economy. – functional, integrated, efficient, fiscally sustainable, secure
White Paper 2 - Outline

1. Current And Future Challenges
2. Preliminary Directions
3. Test Concepts
4. Preliminary Estimates and Performance Comparisons
5. Implementation
6. Next Steps
White Paper 2 - Preliminary Directions

- **A System for Complete Mobility** to expand the existing transportation network into a complete and integrated system
- **Placemaking and Mobility Hubs** to support an appropriate and attractive urban form
- **Excellent Customer Service** to provide a safe and convenient travelling experience
- **Sustainable Financing** to fund the system
- **Innovation through Research** to ensure the best plans and ideas are considered and implemented
- **Partnership and Decision Making** to better coordinate and communicate across government sectors, stakeholders & the public.
White Paper 2 - Preliminary Directions

What would it look like:

- Transportation Demand Management (TDM) programs
- Mobility hubs incorporated into planning policy
- Complete communities with walk, cycle and transit supportive design
- Streets designed and operated to better support all modes of transportation
- Comprehensive parking strategies
- Reflect the true cost of using the road system
- Improved access for goods to local and international markets
- Reinvest user fees to fund transportation infrastructure
- Financial incentives to promote transit use
- Seamless and integrated transit fares/services
- Region-wide service standards
Successful plan will require ambitious policies and programs to support and create a bold, transformational transportation system.

All pieces must work together to encourage a significant change in behaviour – we cannot build our way out of congestion.
White Paper 2 - Test Concepts

Test Concepts modelled are not mutually exclusive:

- Business-as-Usual
- Linear
- Radial
- Web

Model methodology:

- Based on MTO GGH model
- Assumes *Growth Plan* forecasts, planned highway and roads improvements, 100% increase in marginal auto operating, increased parking costs, stable transit fares, faster service.
Existing Transportation Network

The information displayed on this map is conceptual only and is presented for discussion purposes. This map is not to scale, and it does not accurately reflect approved land-use or planning boundaries or actual transportation routes or alignments.
Test Concept A - Linear

Based on MO2020 with additions to complete connections, fill system gaps and address growth beyond 2020
Test Concept B - Radial

Builds on Test Concept A by strengthening radial corridors radiating from Union Station, with Regional Express (REX) a major component of the concept.
Test Concept C - Web

Builds on Test Concept B with enhanced east-west higher order transit lines (REX/ Metro)
Test Concepts Analysis Results

Transit Mode Share - AM Peak Period

Transit Riders - AM Peak Period
Test Concepts Analysis Results (cont’d)

Residents Within Two Km of Rapid Transit

![Bar chart showing residents within two km of rapid transit for different concepts: Existing, BAU, Test Concept A: Linear, Test Concept B: Radial, Test Concept C: Web.](chart.png)
Test Concepts Analysis Results (cont’d)

Provincial GHG Reduction Target: 15% below 1990 levels by 2020
Transportation Sector Share of Reduction: 19%

Passenger Travel

- 45% from RTP:
  - Investments in Transit & Roads
  - Urban Intensification
  - Transportation Demand Management
- 5% from cleaner electricity
- 50% from technology change and improved vehicle efficiency

Goods Movement

- 3% from modal shift (truck-to-rail)
- 15% from freight-specific Transportation Demand Management
- 21% from improved logistics and urban intensification
- 61% from Improved Vehicle Efficiency and Technology Change
# White Paper 2 - Preliminary Estimates

## Capital Cost Estimates

<table>
<thead>
<tr>
<th></th>
<th>BAU</th>
<th>Test Concept A - Linear</th>
<th>Test Concept B - Radial</th>
<th>Test Concept C - Web</th>
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</thead>
<tbody>
<tr>
<td>Rapid and Local Transit</td>
<td>5</td>
<td>40</td>
<td>60</td>
<td>80</td>
</tr>
<tr>
<td>Regional Roads and Provincial Highways</td>
<td>15</td>
<td>20</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>20</td>
<td>60</td>
<td>75</td>
<td>95</td>
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<tr>
<td><strong>Annual</strong></td>
<td>1.0</td>
<td>2.4</td>
<td>3.0</td>
<td>3.8</td>
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<tr>
<td><strong>Per capita (in 2006 dollars per year)</strong></td>
<td>135</td>
<td>324</td>
<td>405</td>
<td>514</td>
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</tbody>
</table>

## Transit Operating Estimates

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>BAU</th>
<th>Test Concept A - Linear</th>
<th>Test Concept B - Radial</th>
<th>Test Concept C - Web</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transit Operating costs (in billions of 2006 dollars per year)</td>
<td>1.6</td>
<td>2.1</td>
<td>2.6</td>
<td>3.3</td>
<td>3.8</td>
</tr>
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</table>
## GTHA Rapid Transit in Context

<table>
<thead>
<tr>
<th>Type of Rapid Transit</th>
<th>Length of Rapid Transit Network (km)</th>
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<tbody>
<tr>
<td></td>
<td>GTHA</td>
</tr>
<tr>
<td></td>
<td>Existing</td>
</tr>
<tr>
<td>Regional Express/RER</td>
<td>0</td>
</tr>
<tr>
<td>Metro/Subway/Tube</td>
<td>70</td>
</tr>
<tr>
<td>Total Heavy Rapid Transit</td>
<td>70</td>
</tr>
<tr>
<td>Population (million people) ***</td>
<td>6.1</td>
</tr>
<tr>
<td>Total HRT per Million People ***</td>
<td>13.2</td>
</tr>
</tbody>
</table>

* Crossrail (approved for construction)
** Downtown suburban rail connector
*** 2031 population for Cases A, B and C; existing population otherwise
Preliminary Observations

A comprehensive approach needed: Combination of bold investment, coordinated transportation and land use planning and supporting policies are needed to achieve economic, social and environmental goals.

Transit ridership increases are most significant when combined with aggressive land use intensification in corridors and mobility hubs.

Greater transit use/efficiency is achieved with fewer and larger mobility hubs, rather than distributing over a more dispersed area.
Preliminary Observations (cont’d)

**Regional Express** service is viable and would greatly enhance cross-regional mobility

**Metro** (e.g. subway) improvements should be considered in higher density areas

**Feeder bus/paratransit needs** will need to double or quadruple in suburban areas

**Reductions in GHG emissions** can be achieved, but additional suite of supporting programs needed to meet provincial targets
Road Sensitivity Analysis

Impact of road capacity on system performance
- Concept B2 based on B-radial with expanded road capacity
- Concept C2 based on C-web with reduced road capacity

Capital costs:
- B2: $10B more
- C2: $15B less

Transit operating costs:
- B2: lower to serve lower transit ridership
- C2: slightly higher to serve higher transit ridership

Ridership:
- B2: 7% less
- C2: slight increase (up to 4% in York)

Modal Split:
- B2: biggest drops in York (30%) and Peel (28%), but little impact on Toronto ridership
- C2: little change
Road Sensitivity Analysis (cont’d)

Energy and Emissions
- B2 = 9% longer and 4% more auto trips; 10% energy use increase; 10% GHG emissions increase
- C2 = 6% shorter and less than 1% fewer trips; 3.4% energy use decrease; 6% GHG emissions decrease.

Accessibility, speed and congestion (induced travel not included)
- B2 = 9% more people would be able to get to work within 45 minutes; transit accessibility mostly unchanged; (a short-term effect on congestion until cars fill available road space)
- C2 = slight decrease in number of people who can get to work within 45 minutes; increase in transit accessibility;
White Paper 2 - Implementation

Land use co-ordination
- Plan status and compliance

Operational and institutional collaboration
- Alignment with RTP (municipal, provincial, agencies, boards, etc.)

Government involvement
- Multi-ministry responsibility

Travel behaviour
- Programs, services and incentives

Investment Strategy
- Sustainable financing plan being developed in tandem with RTP (including revenue sources and financial tools)
- Life-cycle approach to expansion, optimization and renewal, and operations
White Papers - Consultation

7 regional multi-stakeholder meetings:
- Oshawa May 26, 2008
- Toronto May 28, 2008
- Hamilton May 29, 2008
- Burlington June 4, 2008
- Toronto June 6, 2008
- Mississauga June 10, 2008
- Markham June 12, 2008

Ongoing meetings with municipalities and key stakeholders

Online consultation portal and notice on Environmental Registry
Next Steps

• Synthesis of stakeholder input
• Draft RTP (July 08)
  ▪ More detailed modelling and analysis
  ▪ Consultation including public meetings
• Coordination w/ Investment Strategy
• Final RTP (Fall 08)